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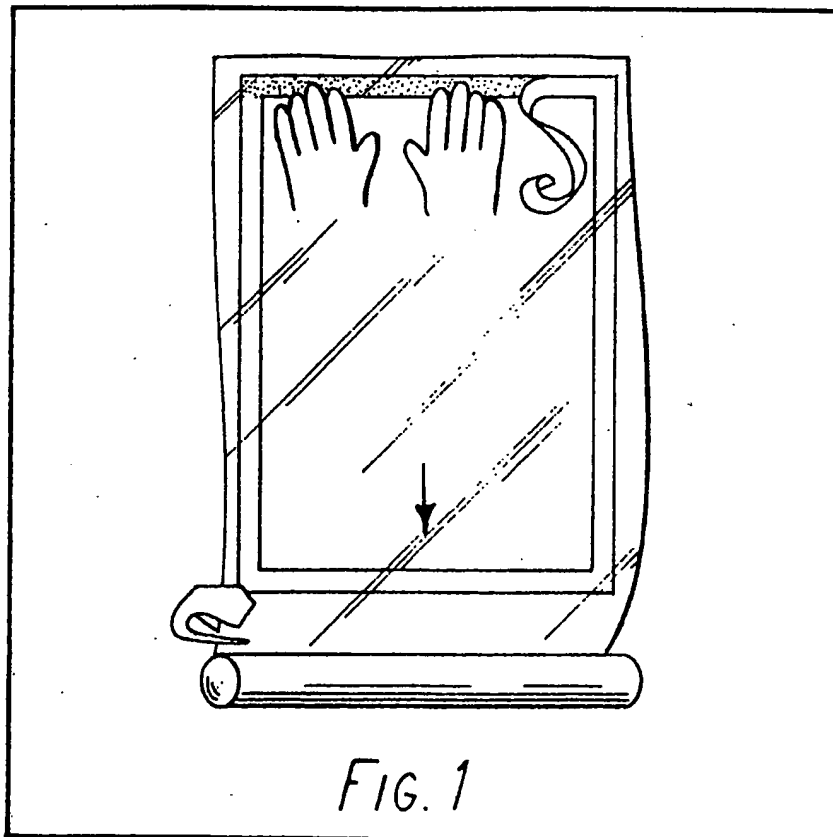
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(54) Improvements Relating to
Windows

(57) The insulation of a window is improved by cutting a piece of clear transparent flexible plastics cling film to a size sufficient to cover the window, and adhering the film to the window. The film may be PVC or polyethylene cling film which is stuck

to the windows frame by double-sided adhesive tape. If two pieces of film are overlapped, they cling together to form a single larger piece. The film is run over a conductive bar to reduce the static electricity on it and increase its handling properties. The materials are preferably assembled into a kit comprising a roll of film, a roll of adhesive tape, and a cutter.



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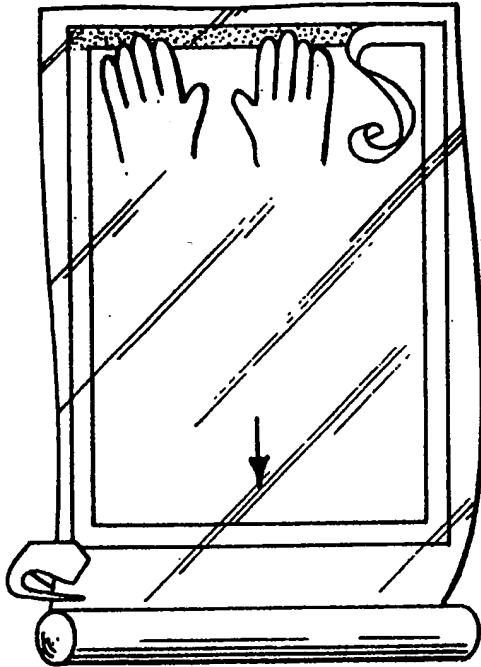


FIG. 1

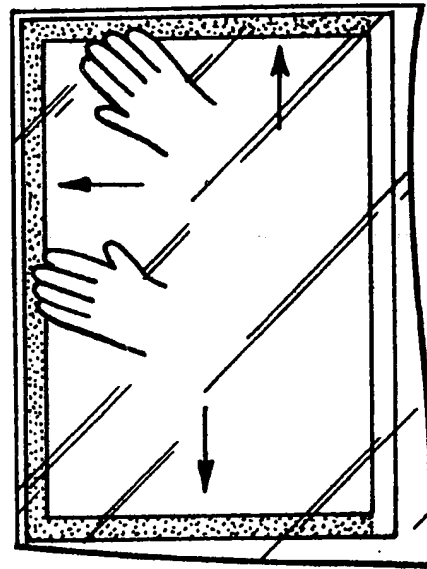


FIG. 2

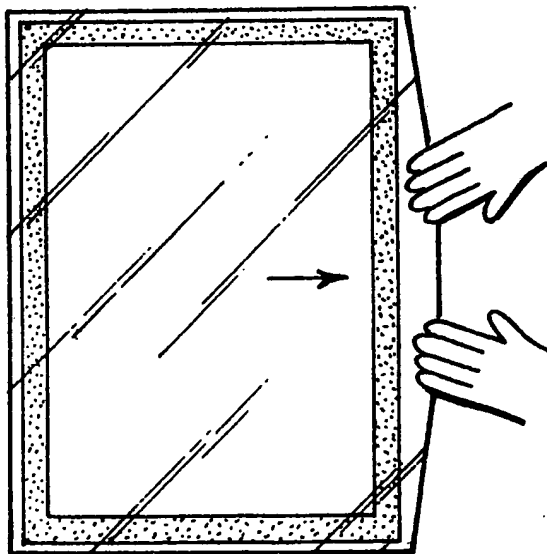


FIG. 3

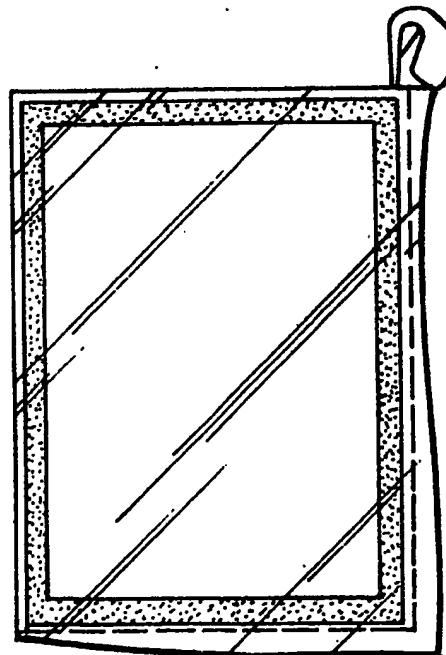


FIG. 4

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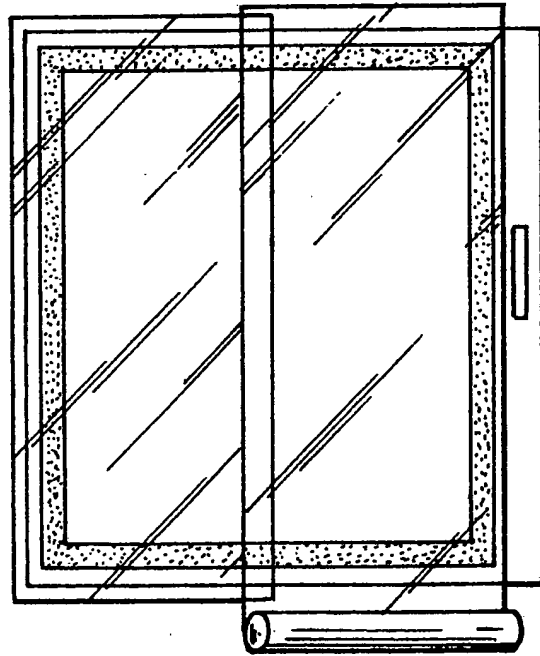


FIG. 5

SPECIFICATION

Improvements Relating to Windows

This invention relates to windows and in particular is concerned to provide a cheaper but effective alternative to the existing commercially available double glazing systems.

In accordance with this invention we provide a method of improving the insulation of a window, comprising the steps of cutting a piece of clear transparent flexible plastics cling film to a size sufficient to cover the window, and adhering the film to the window frame. Preferably the film is stuck to the frame using a double-sided adhesive tape.

The cling film may be a PVC film or polyethylene film having cling characteristics, i.e., it sticks to itself without an adhesive.

Surprisingly we have found the use of cling film to be very effective. It is particularly clear and does not materially reduce the light transmission or cause distortion, while nevertheless improving the thermal and possibly sound insulation of the window, and reducing condensation. It might have been expected that cling film would inherently be an unsuitable material for this purpose, but we have been agreeably surprised at the effective and pleasing results which can be obtained. Preferably in the film manufacture precautions are taken to remove a substantial amount of the static electricity in or on the film so as to improve its handling characteristics.

The invention also provides a kit for use in the above method, and comprising a sheet of clear transparent flexible plastics cling film, for example in a roll, and a length of double-sided adhesive tape suitable for adhering the film to a window frame. Preferably the kit also includes blade for cutting the film.

The invention will now be described in more detail with reference to the drawings, in which: Figures 1 to 4 show stages in the fixing of the film to a window frame, and

Figure 5 shows how the film is used with oversize windows.

The application of the film to a window will be described with reference to Figures 1 to 4. To fit the film a roll of PVC cling film is taken which may typically be 22 inches (559 mm) wide. The film is specially treated during manufacture of the roll to remove as much static electricity as possible. A typical thickness for the film is 12.5 microns.

Also required is a roll of double-sided adhesive tape. Conveniently a tape formed of a tough clear polyester film coated with a high track aggressive clear acrylic adhesive on both sides can be used. The tape must withstand a range of temperatures, preferably down to the minimum likely mid-winter external temperature. The tape includes a removable paper liner to stop adjacent turns sticking to each other in the roll.

When fitting the film to a window, more effective insulation is obtained if the film is applied over the whole fixed frame, and not just to the casement itself, as in this way draughts are

stopped. However, it is not then possible to open the window. For effective insulation a one-inch (25 mm) gap should whenever possible be left between the film and the glazing, if need be the frame can be built up to give the required spacing.

The frame is first cleaned and allowed to dry to ensure proper adhesion. Then adhesive tape is placed around the frame to which the film is to be fixed, and the paper backing is peeled off from the top and one vertical side exposing the adhesive upper surface of the tape, see Figure 1. The roll of cling film is placed on a level surface beneath the window and the end drawn up evenly to level with the top strip of tape. The film can then be pressed evenly onto the tape with the thumbs. The excess film can be cut away using the cutting blade shown.

Both hands are then run down the edges of the film (Figure 2) to remove any wrinkles or creases. The film is now held just below the level of the lower horizontal run of the adhesive tape, tensioned in a sideways and downward direction and stuck to the lower horizontal strip of tape. At this point care is taken to ensure that the film has properly adhered to the tape all around the three sides of the frame.

The next stage is to remove all creases and wrinkles in the film, and for this purpose the paper backing is removed from the final side of the frame and the film is stretched and sealed onto the tape, see Figure 3. The surplus film is cut away from the side using the cutting blade, as shown in Figure 4.

For a window which is wider than the width of the film, all that is necessary is to overlap two strips of film by about 2 inches (5 mm), as shown in Figure 5. The film will cling to itself without the need for further adhesive. In this way a single width of film can be used with a wide range of window sizes.

The film can be made very clear, and has a natural elasticity so that if it is deformed it tends to return to its original flat shape. It thus provides in practice to be much more robust and effective than might have been expected. Quite thin films can be used and it is preferred that the film thickness should be less than 100 microns and preferably less than 25 microns.

A suitable PVC cling film is that sold by the Goodyear Tire and Rubber Co., Wolverhampton, England, under the trade mark "Vita film" type F10.

The removal of static electricity from the film is important to improve its handling characteristics. This can be achieved by running the film over a conductive bar on each side of the film prior to final rolling. This relatively simple step can result in a considerable improvement in the suitability of the cling film for the present purpose.

Claims

1. A method of improving the insulation of a window, comprising the steps of cutting a piece of clear transparent flexible plastics cling film to a size sufficient to cover the window, and adhering

the film to the window frame.

2. A method according to claim 1, in which the film is a PVC or polyethylene film.

3. A method according to claim 1 or 2, in which as a preliminary step the film is treated so as to reduce the static electricity thereon.

4. A method according to claim 1, 2 or 3, in which two pieces of film are overlapped so as to cling to each other to form a single larger piece of film.

5. A method of improving the insulation of a window, substantially as herein described with reference to the drawings.

6. A kit for use in the method of any preceding

15 claim, and comprising a sheet of clear transparent flexible plastics cling film, and a length of double-sided adhesive tape suitable for adhering the film to a window frame.

7. A kit according to claim 6, in which the film is a PVC polyethylene film.

8. A kit according to claim 6 or 7, in which the film is in a roll.

9. A kit according to any of claims 6 to 8, including a blade for cutting the film.

10. A kit for improving the insulation of a window, substantially as herein described with reference to the drawings.

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